

#4

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/531,662  
Source: P47/10  
Date Processed by STIC: 4/26/05

# ***ENTERED***



PCT

## RAW SEQUENCE LISTING

DATE: 04/26/2005

PATENT APPLICATION: US/10/531,662

TIME: 15:44:30

Input Set : A:\PCTGB2003004492 sequence listing.txt

Output Set: N:\CRF4\04262005\J531662.raw

```

3 <110> APPLICANT: ISIS INNOVATION LIMITED
5 <120> TITLE OF INVENTION: HYDROXYLASES AND MODULATORS THEREOF
7 <130> FILE REFERENCE: 06843.0091
C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/531,662
C--> 10 <141> CURRENT FILING DATE: 2005-04-15
12 <150> PRIOR APPLICATION NUMBER: GB 0224102.4
13 <151> PRIOR FILING DATE: 2002-10-16
15 <150> PRIOR APPLICATION NUMBER: GB 0226598.1
16 <151> PRIOR FILING DATE: 2002-11-14
18 <160> NUMBER OF SEQ ID NOS: 32
20 <170> SOFTWARE: PatentIn version 3.2
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 14
24 <212> TYPE: PRT
25 <213> ORGANISM: Artificial sequence
27 <220> FEATURE:
28 <221> NAME/KEY: source
29 <223> OTHER INFORMATION: Artificial peptide
31 <400> SEQUENCE: 1
33 Asp Glu Ser Gly Leu Pro Gln Leu Thr Ser Tyr Asp Cys Glu
34 1          5          10
37 <210> SEQ ID NO: 2
38 <211> LENGTH: 8
39 <212> TYPE: PRT
40 <213> ORGANISM: Artificial sequence
42 <220> FEATURE:
43 <221> NAME/KEY: source
44 <223> OTHER INFORMATION: Artificial peptide
46 <400> SEQUENCE: 2
48 Gln Leu Thr Ser Tyr Asp Cys Glu
49 1          5
52 <210> SEQ ID NO: 3
53 <211> LENGTH: 17
54 <212> TYPE: PRT
55 <213> ORGANISM: Artificial sequence
57 <220> FEATURE:
58 <221> NAME/KEY: source
59 <223> OTHER INFORMATION: Artificial peptide
62 <220> FEATURE:
63 <221> NAME/KEY: misc_feature
64 <222> LOCATION: (16)..(16)
65 <223> OTHER INFORMATION: Xaa can be any naturally occurring amino acid except
asparagine
67 <400> SEQUENCE: 3

```

## RAW SEQUENCE LISTING

DATE: 04/26/2005

PATENT APPLICATION: US/10/531,662

TIME: 15:44:30

Input Set : A:\PCTGB2003004492 sequence listing.txt

Output Set: N:\CRF4\04262005\J531662.raw

```

W--> 69 Asp Glu Ser Gly Leu Pro Gln Leu Thr Ser Tyr Asp Cys Glu Val Xaa
70 1 5 10 15
73 Ala
77 <210> SEQ ID NO: 4
78 <211> LENGTH: 58
79 <212> TYPE: PRT
80 <213> ORGANISM: Homo sapiens
82 <400> SEQUENCE: 4
84 Phe Asn Trp Asn Trp Ile Asn Lys Gln Gln Gly Lys Arg Gly Trp Gly
85 1 5 10 15
88 Gln Leu Thr Ser Asn Leu Leu Leu Ile Gly Met Glu Gly Asn Val Thr
89 20 25 30
92 Pro Ala His Tyr Asp Glu Gln Gln Asn Phe Phe Ala Gln Ile Lys Gly
93 35 40 45
96 Tyr Lys Arg Cys Ile Leu Phe Pro Pro Asp
97 50 55
100 <210> SEQ ID NO: 5
101 <211> LENGTH: 16
102 <212> TYPE: PRT
103 <213> ORGANISM: Drosophila melanogaster
105 <400> SEQUENCE: 5
107 Glu Leu Ala Ala Asp Leu Arg Val Ser Asp Leu Asp Phe Ala Gln Gln
108 1 5 10 15
111 <210> SEQ ID NO: 6
112 <211> LENGTH: 42
113 <212> TYPE: PRT
114 <213> ORGANISM: Drosophila melanogaster
116 <400> SEQUENCE: 6
118 Pro Pro Asp Ala Val Asn Phe Trp Leu Gly Asp Glu Arg Ala Val Thr
119 1 5 10 15
122 Ser Met His Lys Asp Pro Tyr Glu Asn Val Tyr Cys Val Ile Ser Gly
123 20 25 30
126 His Lys Asp Phe Val Leu Ile Pro Pro His
127 35 40
130 <210> SEQ ID NO: 7
131 <211> LENGTH: 14
132 <212> TYPE: PRT
133 <213> ORGANISM: Drosophila melanogaster
135 <400> SEQUENCE: 7
137 Ala Leu Lys Glu Asp Ile Ser Ile Pro Asp Tyr Cys Thr Ile
138 1 5 10
141 <210> SEQ ID NO: 8
142 <211> LENGTH: 43
143 <212> TYPE: PRT
144 <213> ORGANISM: Drosophila melanogaster
146 <400> SEQUENCE: 8
148 Pro Gly Ala Val Asp Ile Lys Ala Trp Leu Gly Pro Ala Gly Thr Val
149 1 5 10 15
152 Ser Pro Met His Tyr Asp Pro Lys His Asn Leu Leu Cys Gln Val Phe

```

## RAW SEQUENCE LISTING

DATE: 04/26/2005

PATENT APPLICATION: US/10/531,662

TIME: 15:44:30

Input Set : A:\PCTGB2003004492 sequence listing.txt

Output Set: N:\CRF4\04262005\J531662.raw

```

153          20          25          30
156 Gly Ser Lys Arg Ile Ile Leu Ala Ala Pro Ala
157          35          40
160 <210> SEQ ID NO: 9
161 <211> LENGTH: 17
162 <212> TYPE: PRT
163 <213> ORGANISM: Homo sapiens
165 <400> SEQUENCE: 9
167 Lys Ile Val Arg Lys Leu Ser Trp Val Glu Asn Leu Trp Pro Glu Glu
168 1          5          10          15
171 Cys
175 <210> SEQ ID NO: 10
176 <211> LENGTH: 44
177 <212> TYPE: PRT
178 <213> ORGANISM: Homo sapiens
180 <400> SEQUENCE: 10
182 Pro Asn Val Gln Lys Tyr Cys Leu Met Ser Val Arg Asp Ser Tyr Thr
183 1          5          10          15
186 Asp Phe His Ile Asp Phe Gly Gly Thr Ser Val Trp Tyr His Val Leu
187          20          25          30
190 Lys Gly Glu Lys Ile Phe Tyr Leu Ile Arg Pro Thr
191          35          40
194 <210> SEQ ID NO: 11
195 <211> LENGTH: 16
196 <212> TYPE: PRT
197 <213> ORGANISM: Caenorhabditis elegans
199 <400> SEQUENCE: 11
201 Arg Phe Val Gln Glu Ile Ser Met Val Asn Arg Leu Trp Pro Asp Val
202 1          5          10          15
205 <210> SEQ ID NO: 12
206 <211> LENGTH: 44
207 <212> TYPE: PRT
208 <213> ORGANISM: Caenorhabditis elegans
210 <400> SEQUENCE: 12
212 Pro Lys Val Glu Gln Phe Cys Leu Ala Gly Met Ala Gly Ser Tyr Thr
213 1          5          10          15
216 Asp Phe His Val Asp Phe Gly Gly Ser Ser Val Tyr Tyr His Ile Leu
217          20          25          30
220 Lys Gly Glu Lys Ile Phe Tyr Ile Ala Ala Pro Thr
221          35          40
224 <210> SEQ ID NO: 13
225 <211> LENGTH: 16
226 <212> TYPE: PRT
227 <213> ORGANISM: Caenorhabditis elegans
229 <400> SEQUENCE: 13
231 Arg Phe Val Gln Asp Ile Ser Met Ala Lys Arg Leu Trp Ser Asp Val
232 1          5          10          15
235 <210> SEQ ID NO: 14
236 <211> LENGTH: 35

```

## RAW SEQUENCE LISTING

DATE: 04/26/2005

PATENT APPLICATION: US/10/531,662

TIME: 15:44:30

Input Set : A:\PCTGB2003004492 sequence listing.txt

Output Set: N:\CRF4\04262005\J531662.raw

```

237 <212> TYPE: PRT
238 <213> ORGANISM: Caenorhabditis elegans
240 <400> SEQUENCE: 14
242 Pro Lys Ile Glu Gln Ile Cys Ala Ala Ala Met Ala Asn Ser Tyr Thr
243 1          5          10          15
246 Asp Phe His Val Asp Phe Gly Gly Thr Ser Val Tyr Phe His Val Phe
247          20          25          30
250 Lys Gly Glu
251          35
254 <210> SEQ ID NO: 15
255 <211> LENGTH: 9
256 <212> TYPE: PRT
257 <213> ORGANISM: Caenorhabditis elegans
259 <400> SEQUENCE: 15
261 Lys Ile Phe Tyr Ile Ala Ala Pro Thr
262 1          5
265 <210> SEQ ID NO: 16
266 <211> LENGTH: 16
267 <212> TYPE: PRT
268 <213> ORGANISM: Drosophila melanogaster
270 <400> SEQUENCE: 16
272 Glu Ile Val Arg Gln Ile Asp Trp Val Asp Val Val Trp Pro Lys Gln
273 1          5          10          15
276 <210> SEQ ID NO: 17
277 <211> LENGTH: 35
278 <212> TYPE: PRT
279 <213> ORGANISM: Drosophila melanogaster
281 <400> SEQUENCE: 17
283 Pro Lys Val Gln Lys Tyr Cys Leu Met Ser Val Lys Asn Cys Tyr Thr
284 1          5          10          15
287 Asp Phe His Ile Asp Phe Gly Gly Thr Ser Val Trp Tyr His Ile Leu
288          20          25          30
291 Arg Gly Ser
292          35
295 <210> SEQ ID NO: 18
296 <211> LENGTH: 9
297 <212> TYPE: PRT
298 <213> ORGANISM: Drosophila melanogaster
300 <400> SEQUENCE: 18
302 Lys Val Phe Trp Leu Ile Pro Pro Thr
303 1          5
306 <210> SEQ ID NO: 19
307 <211> LENGTH: 18
308 <212> TYPE: PRT
309 <213> ORGANISM: Saccharomyces cerevisiae
311 <400> SEQUENCE: 19
313 Gln Asn Asp Leu Val Asp Lys Ile Trp Ser Phe Asn Gly His Leu Glu
314 1          5          10          15
317 Lys Val

```

## RAW SEQUENCE LISTING

DATE: 04/26/2005

PATENT APPLICATION: US/10/531,662

TIME: 15:44:30

Input Set : A:\PCTGB2003004492 sequence listing.txt

Output Set: N:\CRF4\04262005\J531662.raw

```

321 <210> SEQ ID NO: 20
322 <211> LENGTH: 44
323 <212> TYPE: PRT
324 <213> ORGANISM: Saccharomyces cerevisiae
326 <400> SEQUENCE: 20
328 Pro Lys Val Thr Lys Tyr Ile Leu Met Ser Val Lys Asp Ala Tyr Thr
329 1          5          10          15
332 Asp Phe His Leu Asp Phe Ala Gly Thr Ser Val Tyr Tyr Asn Val Ile
333          20          25          30
336 Ser Gly Gln Lys Lys Phe Leu Leu Phe Pro Pro Thr
337          35          40
340 <210> SEQ ID NO: 21
341 <211> LENGTH: 61
342 <212> TYPE: PRT
343 <213> ORGANISM: Rattus norvegicus
345 <400> SEQUENCE: 21
347 Lys Thr Asp Val Phe Gln Glu Val Met Trp Ser Asp Phe Gly Phe Pro
348 1          5          10          15
351 Gly Arg Asn Gly Gln Glu Ser Thr Leu Trp Ile Gly Ser Leu Gly Ala
352          20          25          30
355 His Thr Pro Cys His Leu Asp Ser Tyr Gly Cys Asn Leu Val Phe Gln
356          35          40          45
359 Val Gln Gly Arg Lys Arg Trp His Leu Phe Pro Pro Glu
360          50          55          60
363 <210> SEQ ID NO: 22
364 <211> LENGTH: 57
365 <212> TYPE: PRT
366 <213> ORGANISM: Caenorhabditis elegans
368 <400> SEQUENCE: 22
370 Phe Glu Asp Asp Leu Phe His Tyr Ala Asp Asp Lys Lys Arg Pro Pro
371 1          5          10          15
374 His Arg Trp Phe Val Met Gly Pro Ala Arg Ser Gly Thr Ala Ile His
375          20          25          30
378 Ile Asp Pro Leu Gly Thr Ser Ala Trp Asn Ser Leu Leu Gln Gly His
379          35          40          45
382 Lys Arg Trp Val Leu Ile Pro Pro Ile
383          50          55
386 <210> SEQ ID NO: 23
387 <211> LENGTH: 60
388 <212> TYPE: PRT
389 <213> ORGANISM: Drosophila melanogaster
391 <400> SEQUENCE: 23
393 Thr Ile Leu Asp Tyr Val Asn Lys Asp Tyr Asn Ile Gln Ile Asp Gly
394 1          5          10          15
397 Val Asn Thr Ala Tyr Leu Tyr Phe Gly Met Trp Lys Thr Thr Phe Ala
398          20          25          30
401 Trp His Thr Glu Asp Met Asp Leu Tyr Ser Ile Asn Tyr Leu His Phe
402          35          40          45
405 Gly Ala Pro Lys Thr Trp Tyr Val Val Pro Pro Glu

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/531,662

DATE: 04/26/2005  
TIME: 15:44:31

Input Set,: A:\PCTGB2003004492 sequence listing.txt  
Output Set: N:\CRF4\04262005\J531662.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; Xaa Pos. 16

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/531,662

DATE: 04/26/2005

TIME: 15:44:31

Input Set : A:\PCTGB2003004492 sequence listing.txt

Output Set: N:\CRF4\04262005\J531662.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application Number

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:69 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0